



SCIENTISTS IN PARKS
Fellows
2021 Project Descriptions



NPS UNIT: CHRISTIANSTED NATIONAL HISTORIC SITE, BUCK ISLAND REEF NATIONAL MONUMENT, SALT RIVER BAY NATIONAL HISTORICAL PARK AND ECOLOGICAL PRESERVE	PD #: 2021303
<p>Project Title: Assessing sea turtle nesting populations at Buck Island Reef National Monument: Management implications of recovering populations</p> <p>Primary natural resource discipline: Biological Sciences</p> <p>Project keywords: Endangered species, sea turtles, conservation, education, natural resource condition assessment</p> <p>Location: Christiansted, U.S. Virgin Islands</p>	
COVID-19 NOTICE	
<p>As the COVID-19 pandemic continues to change and evolve, project timelines and structure remain flexible and it may be necessary to postpone start dates, begin work remotely, or reformulate the project’s description. Should any development in the COVID-19 outbreak impair a project’s timeline or results, the SIP Team will work with the park and project mentors to assess the situation and determine the best course of action at that time.</p>	
PROJECT DESCRIPTION AND WORK PRODUCTS	
<p>Position Description: Buck Island Reef National Monument (BUIS) in St. Croix, U.S. Virgin Islands (USVI) provides critical nesting habitat for hawksbill and green sea turtles. BUIS is the primary index nesting beach under U.S. jurisdiction for the critically endangered hawksbill sea turtle and is the only fully protected site in the Caribbean where hawksbills forage and nest. BUIS provides important nesting and foraging habitat for a recovering aggregation of green turtles. Sea turtles fulfill important roles in the marine ecosystems at BUIS, utilizing coral reefs and seagrass meadows as foraging habitat and coastal beaches for nesting habitat. As federally listed species, sea turtles are a high management priority at BUIS. The NPS BUIS Division of Resource Management, with support from agency and academic partners, has conducted extensive research and monitoring of sea turtle populations at BUIS for thirty-three years (1987-2020), as part of the Buck Island Sea Turtle Research Program (BISTRP). BISTRP is an incredibly successful program that has resulted in the recovery of sea turtle populations at BUIS.</p> <p>Project Description and Fellow Responsibilities: The SIP Fellow, will accomplish the following during Summer (May-July) 2021:</p> <ol style="list-style-type: none"> 1) Using the BISTRP database, fellow will analyze thirty-three years of saturation tagging data to provide a baseline assessment for the hawksbill and green turtle nesting populations at BUIS. In addition, the Fellow will create a graphical representation of overlap between sea turtle nesting activity and coastal erosion at BUIS. 2) Interpret the results and disseminate project findings by: 1) Providing NPS Resource Managers with products that aid in development of management practices that ensure the continued recovery of sea turtle nesting populations and sustainable visitor use of nesting beach habitat, while also accounting for threats of climate change (i.e. nesting habitat loss due to coastal erosion); 2) Working with local agencies (i.e. NPS, DPNR, USFWS, The Nature Conservancy) to incorporate findings in the USVI Caribbean Hawksbill Recovery Action Plan; 3) Developing a brief summary of project results to be distributed to local schools and conservation initiatives, to raise awareness of sea turtle conservation; 4) Preparing results from the baseline assessment for submission to a peer-reviewed scientific journal. 	

3) Conduct a workshop at the Youth Oceans Program, a STEM summer camp for local under-represented students in the USVI. The Fellow will teach students how to monitor beaches for sea turtle nesting activity, offering students an opportunity to engage with resource management and allowing NPS to share the success BISTRP program with local community members.

This project will take an interdisciplinary approach to address a natural resource management need in the disciplines of “Biological Sciences” and “Communication and Education”.

Biological Sciences, Natural Resources, Climate Change: Evaluating the status of sea turtle nesting populations requires long-term consistent data collection. The Buck Island Sea Turtle Research Program (BISTRP) is one of the longest-running studies in the world for critically endangered hawksbills (1987-2019). This project will utilize 30+ years of nesting data collected by BISTRP to provide a baseline assessment for nesting populations of hawksbills and green turtles at BUIS. In addition, creating a graphical representation of overlap between sea turtle nesting distribution and coastal erosion at BUIS, will allow NPS to develop management practices to ensure the continued success of sea turtle conservation and visitor access at BUIS, while accounting for impacts of climate change (i.e. storms, sea level rise).

Communication and Education: Successful conservation of endangered species requires extensive cooperation and support between conservation agencies and local communities. The recovery of sea turtle nesting populations at BUIS is an accomplishment that should be shared by NPS and the USVI community. Since the USVI relies heavily on its marine resources for tourism, maintaining visitor access to BUIS beaches is key to ensuring continued recovery of sea turtle nesting populations. Sharing the success of BISTRP with the USVI community is critical to inspiring the next generation of environmental stewards. The education component of this project offers an opportunity to accomplish this, by engaging local underrepresented students from low-income communities with resource management efforts and the “BISTRP Success Story”.

This position is offered through the National Park Service's Scientists in Parks Program in partnership with Ecological Society of America.

Work Products: Project Deliverables and Work Products

The SIP Fellow participating in this project will:

- 1) Complete a baseline population condition assessment for hawksbill and green sea turtles nesting at BUIS and create a graphical representation of overlap between the distribution of sea turtles nests and coastal erosion at BUIS.
- 2) Provide NPS with products that will aid in the development of future management practices that ensure continued recovery of nesting sea turtle populations at BUIS. These products will allow NPS to assess the potential impacts of climate change on sea turtle nesting (including loss of nesting habitat due to coastal erosion) and visitor access to critical nesting habitat.
- 3) Gain significant experience in disseminating project findings beyond the realm of academia, by learning how science is used to inform effective natural resource management strategies.
- 4) Gain significant communication and mentoring skills by conducting a workshop for the Youth Ocean Explorers program, a STEM summer camp for local under-represented students in the US Virgin Islands. The Fellow will also develop a brief summary of project results educational materials to be shared at this summer camp, as well as with local schools and conservation initiatives to increase community awareness of local sea turtle conservation efforts.

- 5) The fellow will be exposed to the mid-term and final evaluation process, modeled after the NPS employee performance / appraisal plans, to simulate and train the fellow for employment with NPS.
- 6) Allow the NPS to cultivate the next generation of natural resource managers by passing on institutional knowledge critical to the success of the agency mission. This is accomplished by engaging young creative minds that can assist with the development of broad outreach materials to effectively educate and connect with a diverse community.

NATURAL & PHYSICAL WORK ENVIRONMENT

Work environment (on-site): CHRI is located in downtown Christiansted, St. Croix, US Virgin Islands. CHRI is the headquarters park for CHRI, BUIS and SARI. CHRI provides office accommodations within its historic buildings; Division of Resource Management is housed in Danish West Indies Guinea Company Warehouse, circa late 1800s. The SIP Fellow would be provided a work station in the Resource Management office; climbing stairs is required to reach first floor work area (no accessibility due to historic building status). During the 2-week on-site portion of the project, the Fellow will primarily assist with the Youth Ocean Explorers program, a STEM summer camp administered by the University of the Virgin Islands and NPS.

Local area: Low elevation, coastal parks located within the tropical/semi-tropical Caribbean (i.e. bright sun, average temperatures 75-85 F). English is the primary language on the island; cars are American-designed driven on the left side. This onsite component of the fellowship would overlap with the beginning of the Caribbean hurricane season. CHRI will provide orientation to severe weather planning. NPS will also assist the Fellow in finding short-term lodging in a safe neighborhood located within walking distance to the NPS headquarters, grocery stores, post offices, banking, and other necessities. Lodgings are furnished and have Wi-Fi access.

QUALIFICATIONS

Education: Bachelor's Degree in Biology (or related field). Current student in a U.S. graduate program (Masters or PhD) with a focus in Biology (or related field; e.g. Zoology, Natural Resource Management).

Required coursework (at undergraduate and/or graduate level): Biology, ecology, statistics

Skills:

- Data analysis – competent without supervision; must demonstrate experience in data analysis and data management. Experience in managing large datasets preferred, but not necessary
- Scientific writing – competent without supervision; must have demonstrated experience in writing and publishing articles in peer-reviewed scientific journals
- Education / outreach – competent without supervision; must demonstrate proficient experience in science communication to non-science audiences, including K-12 students
- Development of education / outreach programs – some experience preferred, but not necessary

Due to COVID, NPS and the Fellow will conduct this project remotely, with the exception of the 2-week on-site education component (if conditions allow). For this reason, NPS does seek a candidate with demonstrated experience and proficiency in data analysis and writing. Candidate must have a strong desire for improving diversity and inclusion in the natural sciences through effective communication and outreach, building their leadership skills, and gaining experience in developing management goals for natural resources. This project is

directed to a graduate-level candidate that seeks to pursue a leadership-level position in natural resource management with the federal government.

The applicant must be a U.S. citizen or U.S. National between the ages of 18 and 30 years old inclusive, or veterans up to age 35. Prior to starting this position, a government security background clearance will be required.

VEHICLE AND DRIVER LICENSE REQUIREMENTS

Applicant must have a valid drivers license and a good driving record.

A personal vehicle is RECOMMENDED but not required for this position.

HOUSING

Park housing is available and will be provided at no cost to the participant. NPS anticipates fellowship will be administer remotely, with the exception of a 2-week on-site education component mid-summer. NPS housing is not available for the on-site component of the project at the time of SIP application submission. NPS will assist the Fellow in finding a local short-term rental, as it done for previous student interns. There are multiple options for short-term rentals in downtown Christiansted, all of which are in a safe neighborhood and are within walking distance to the NPS headquarters, grocery stores, post office, banks, and other necessities. Short-term lodgings are furnished and have Wi-Fi access. We are requesting a subsidy for housing costs associated with the high cost of lodging accommodations in this island location. Adequate housing typically costs \$600-\$800 per month.

INTERNSHIP START/END DATES

Start Date: 5/10/2021

Eleven weeks of the project will be in the park. A mandatory Professional Development Workshop will be held in Washington, D.C. from August 1 – 5, 2021.